AMENDMENTS TO THE CLAIMS

Presented below is a complete set of claims with current status indicators.

1. (currently amended) An implantable cardiac defibrillation assembly comprising:

at least one implantable lead including a defibrillation electrode adapted for placement in a chamber of the heart and including a connector, the lead further adapted to provide near-field and far-field pacing electrode configurations; and

an implantable defibrillation device having a ventricular pacing pulse generator that provides ventricular pacing pulses and a pulse generator that provides defibrillation pulses, ~~and that is~~ the device configured to receive the connector to couple the defibrillation electrode to the pulse generator, the device further including a system that evaluates and conditions the assembly to provide defibrillation therapy to the heart without requiring arrhythmia induction of the heart, wherein the system is operative to:

generate a test pulse, measure an electric field resulting from the test pulse, and to determine a test-pulse defibrillation threshold based on the measured electric field generated by the test pulse and a predefined electric field value required to defibrillate the heart;

measure a near-field pacing threshold and determine a near-field-pacing defibrillation threshold based on the measured near-field pacing threshold and a predefined scaling factor;

measure a far-field pacing threshold and determine a far-field-pacing defibrillation threshold based on the measured far-field pacing threshold and a predefined scaling factor; and

determine a defibrillation threshold based on an average of at least two of a test-pulse defibrillation threshold, a near-field-pacing-threshold defibrillation threshold and a far-field-pacing-threshold defibrillation threshold.

2. (original) The assembly of claim 1 wherein the at least one implantable lead has a lead DC resistance between the connector and the defibrillation electrode, and wherein the assembly further comprises a DC resistance measuring circuit that

measures the lead DC resistance responsive to the device receiving the connector coupling the defibrillation electrode to the pulse generator.

3. (original) The assembly of claim 2 further comprising a display that displays the measured lead DC resistance.

4. (original) The assembly of claim 2 further comprising an alarm that provides a perceptible indication when the lead DC resistance is outside of a predetermined DC resistance range.

5. (original) The assembly of claim 1 further including a ventricular sensing electrode that senses ventricular electrical activity including R waves of the heart, wherein the device includes a ventricular sensing circuit that is adapted to be coupled to the ventricular sensing electrode that senses the ventricular activity sensed by the ventricular sensing electrode, and wherein the system further comprises a confirmation circuit that confirms that the sensing ventricular electrode and ventricular sensing circuit are able to sense R waves of the heart.

6. (original) The assembly of claim 5 wherein the confirmation circuit confirms acceptable R wave amplitude and/or slew rate.

7. (original) The assembly of claim 5 further including an atrial sensing electrode that senses atrial activity including P waves of the heart, wherein the device includes an atrial sensing circuit that is adapted to be coupled to the atrial sensing electrode that senses the atrial activity sensed by the atrial sensing electrode, and wherein the confirmation circuit confirms sensing of an R wave corresponding to each sensed P wave.

8. (original) The assembly of claim 7 wherein the device includes a relatively long AV delay to enable sensing of conducted R waves.

9. (original) The assembly of claim 5 wherein the device includes a relatively long escape interval.

10. (original) The assembly of claim 1 wherein the system is operative to set the pulse generator to a defibrillation voltage above the defibrillation threshold.

11. (canceled)

12. (previously presented) The assembly of claim 1 wherein the device includes a conductive enclosure, wherein the system is further operative to cause the pulse generator to apply a test pulse of a given voltage between the device enclosure and the defibrillation electrode and to measure an induced voltage induced by the test pulse and indicative of a corresponding defibrillation electrical field.

13. (previously canceled)

14. (currently amended) An implantable cardiac defibrillation assembly comprising:

implantable lead means including a defibrillation electrode for making electrical contact with a chamber of the heart and including a connector; and

device means having pulse generating means for providing defibrillation pulses and ventricular pacing pulse generating means for providing near-field and far-field ventricular pacing pulses and being configured for receiving the connector for coupling the defibrillation electrode to the pulse generating means, the device means further comprising:

means for generating a test pulse, means for measuring an electric field resulting from the test pulse, and means for determining a defibrillation threshold based on the measured electric field generated by the test pulse and a predefined electric field value required to defibrillate the heart;

means for measuring a near-field pacing threshold and determining a near-field-pacing defibrillation threshold based on the measured near-field pacing threshold and a predefined scaling factor;

means for measuring a far-field pacing threshold and determining a far-field-pacing defibrillation threshold based on one of the measured far-field pacing threshold and a predefined scaling factor; and

means for determining a defibrillation threshold based on an average of at least two of a test-pulse defibrillation threshold, a near-field-pacing-threshold defibrillation threshold and a far-field-pacing-threshold defibrillation threshold.

15. (canceled)

16. (currently amended) In a procedure of implanting a cardiac defibrillation assembly, [[the]] a method comprising:

providing at least one implantable lead including a defibrillation electrode adapted for placement in a chamber of the heart and including a connector;

providing an implantable defibrillation device having a pulse generator that provides defibrillation pulses and that is configured to receive the connector to couple the defibrillation electrode to the pulse generator; and

determining at least two of a test-pulse defibrillation threshold, a near-field-pacing-threshold defibrillation threshold and a far-field-pacing-threshold defibrillation threshold and thereafter computing a defibrillation threshold average from the at least two measurements, wherein determining a test-pulse defibrillation threshold comprises generating a test pulse, measuring an electric field resulting from the test pulse, and determining [[a]] the test-pulse defibrillation threshold based on the measured electric field generated by the test pulse and a predefined electric field value required to defibrillate the heart; determining a near-field-pacing-threshold defibrillation comprises providing a ventricular near-field pulse, measuring a near-field pacing threshold, and determining a near-field-pacing-threshold defibrillation threshold based on the measured near-field pacing threshold and a predefined scaling factor; and determining a far-field-pacing-threshold defibrillation comprises providing a ventricular far-field pulse, measuring a far-field pacing threshold, and determining a far-field-pacing-threshold defibrillation threshold based on the measured far-field pacing threshold and a predefined scaling factor.

17. – 20. (canceled)